

Date: Mon, 19 Jul 93 20:29:48 PDT  
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>  
Errors-To: Info-Hams-Errors@UCSD.Edu  
Reply-To: Info-Hams@UCSD.Edu  
Precedence: Bulk  
Subject: Info-Hams Digest V93 #877  
To: Info-Hams

Info-Hams Digest                    Mon, 19 Jul 93                    Volume 93 : Issue 877

Today's Topics:

Alinco DR-600 Mods  
Antenna question  
Balun phasing: How to measure???  
DJ-580 question  
Info on Icom P2AT  
LUNCH  
Motorola Mostar Help needed  
QST CD-ROM  
Teletype question  
teletypes  
TS-50, type-acceptance  
TS50 (2 msgs)  
TS50 Illegal! (3 msgs)

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>

Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>

Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

---

Date: Mon, 19 Jul 93 23:09:16 GMT  
From: sdd.hp.com!col.hp.com!csn!hellgate.utah.edu!fcom.cc.utah.edu!  
cosmic.physics.utah.edu!levin@decwrl.dec.com  
Subject: Alinco DR-600 Mods  
To: info-hams@ucsd.edu

Hi,

I just got the info on how to modify the Alinco DR-600. I have

activated these mods and they seem to work fine. Here they are:

Mod 1 - Activate 108 - 142 MHz and 810 - 998 MHz Receive

-----

Remove head unit from radio and open it up.

Inside you will see a red and blue wire.

Cut the red wire.

Open the main unit and attach a wire to CN-205. This will be your antenna for 810-998 MHz.

Close everything up.

Reset the CPU by holding down the FUNC key while you turn the radio on.

To use:

The VHF key toggles between 108-142 and 2m. This toggle only works in VFO mode.

The UHF key toggles between 810-998 and 70cm. This toggle only works in VFO mode.

Mod 2 - Extended tx/rx on 2m and 70cm

-----

Remove head unit from radio and open it. (2 screws on back)

Inside you will see a red and a blue wire.

Cut the blue wire.

Put everything back together.

Reset the CPU by holding down the FUNC key while you turn the radio on.

You can now transmit and receive on the following freqs:  
130-174MHz and 400-517MHz

Be carefull!!!! You can now transmit outside of the HAM bands. Don't do this! If you do you WILL get caught and

the FCC loves those \$10,000 fines.

NOTE: I take no responsibility for these modifications. If you blow up your radio it is not my fault. If you have any questions about these mods call Alinco.

Chris Levin  
levin@cosmic.physics.utah.edu

---

Date: 20 Jul 93 03:23:12 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Antenna question  
To: info-hams@ucsd.edu

I posted this to rec.radio.antennas, and got no answer, and I know there are some opinions about this out there, so...

I'm soliciting information about the relative quality of Comet and Diamond antennas, both base and mobile. I'm interested in 2m/70cm/23cm tribanders.

73, and thanx, doug  
<faunt@netcom.com>

---

Date: 19 Jul 93 17:56:31 EST  
From: titan.ksc.nasa.gov!k4dii.ksc.nasa.gov!user@ames.arpa  
Subject: Balun phasing: How to measure???  
To: info-hams@ucsd.edu

In article <CABwF5.45r@acsu.buffalo.edu>, oopdavid@ubvms.cc.buffalo.edu (D.RODMAN) wrote:  
> Has anyone an idea on how one would measure the balun terminal orientation  
> in order to phase several antennas so that the "center" terminal is always  
> going in the same direction? Assume the baluns are the 1:1 variety, like  
> the W2AU type and have no external markings.

Dave-

I agree with Bob's proposal to apply a low level signal. However, you

might have lower losses if you did your phasing on the balanced side, and only used a single balun to get back to co-ax.

73, Fred, K4DII

-----  
Date: Tue, 20 Jul 1993 01:22:49 GMT  
From: well!moon!pixar!mongo!bruce@uunet.uu.net  
Subject: DJ-580 question  
To: info-hams@ucsd.edu

In article <22egpr\$6vh@pith.uoregon.edu>, jeffh@ludwig.cc.uoregon.edu (Jeff Hite) writes:

|> So the basic question I'm asking is should the 2mtr side desense when  
|> transmitting on 70cm?

I think this is what you need. It's from Jay Appel's manual on the DJ-580

- Bruce Perens KD60TD

### 13.1 ENABLE SPEAKER FULL-DUPLEX

Enabling the speaker will cause feedback unless an external earphone or headset is used.

1. Press and hold the FUNC key, then press the \* key. The LCD should display FL.
2. Press and hold the FUNC key, then press the 5 key. The LCD should display Fd-on. Repeat this step until the field indicates Fd-on.
3. Press and hold the FUNC key, then press the FL/PL key repeatedly until the FL and PL indicators are absent from the LCD display.

### 13.2 DISABLE SPEAKER SEMI-DUPLEX

Perform the following steps:

1. Press and hold the FUNC key, then press the \* key. The LCD should display FL.
2. Press and hold the FUNC key, then press the 5 key. The LCD should display Fd-oF. Repeat this step until the field indicates Fd-oF.

3. Press and hold the FUNC key, then press the FL/PL key repeatedly until the FL and PL indicators are absent from the LCD display.
- 

Date: 20 Jul 1993 03:21:36 GMT  
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!  
ux1.cso.uiuc.edu!vixen.cso.uiuc.edu!uwm.edu!csd4.csd.uwm.edu!  
pachner@network.ucsd.edu  
Subject: Info on Icom P2AT  
To: info-hams@ucsd.edu

I have an opportunity to pick up an Icom P2AT for a real reasonable price.  
(he needs the money). I know it does out of band receive, but what about out  
of band transmit so I could use it on low power for business band, or for  
marine communications. Thanks for info. you might have.

--

=====

Thomas Jay Pachner --- Music Major, Bassist, and Amateur Operator (soon)  
University of Wisconsin - Milwaukee - pachner@csd4.csd.uwm.edu  
Amateur Call Sign: Somewhere between Milwaukee and Gettysburg

-----

Date: Mon, 19 Jul 1993 22:03:47 GMT  
From: bcstec!bronte!espresso!dennism@uunet.uu.net  
Subject: LUNCH  
To: info-hams@ucsd.edu

In article 0N0F69F0@3avenew.cts.com, philip.childs@3avenew.cts.com (Philip Childs)  
writes:  
>See you Friday at 11:30am.  
>Philip

Great. I'll be there with my appetite. You're paying, right?

---

Dennis P. McClure  
(206)865-4926

## Boeing Computer Services Commercial Airplane Support

Date: Mon, 19 Jul 1993 23:37:55 GMT  
From: tandem!NewsWatcher!user@uunet.uu.net  
Subject: Motorola Mostar Help needed  
To: info-hams@ucsd.edu

I have a motorola Mostar 8 channel radio. I have successfully been able to reprogram the 8 channels to 2m. I would like to now add more channels. The radio uses a 2804 eeprom, except in the 8 channel version the high address line isn't used. I added a binary switch and changed the prom to a 2716(the pinouts are the same). The binary switch should now act like a bank switch into the 2716. Each channel takes 32 bytes.

Using this method I should be able to get 8 banks of 8 frequencies, but it doesn't seem to work. I've even had a friend re-do everything, cause he figured it had to work and I had screwed it up. Well, it doesn't work for him either.

Has anyone done this? Is there some hidden feature of the 2804 that makes them not compatible with the 2716? Any and all help would be appreciated.

If you want more details of what we attempted let me know and I will re-post.

Thanks,  
Michael, N6UGX

Michael Brooks Internet:Brooks\_Michael@Tandem.Com  
Tandem Computers, Inc.

The opinions expressed are mine and not in any way related to my employer.

Date: Tue, 20 Jul 1993 01:16:44 GMT  
From: elroy.jpl.nasa.gov!sdd.hp.com!col.hp.com!news.dtc.hp.com!srigenprp!  
alanb@ames.arpad  
Subject: QST CD-ROM  
To: info-hams@ucsd.edu

Rev. Michael P. Deignan ([kd1hz@anomaly.sbs.com](mailto:kd1hz@anomaly.sbs.com)) wrote:  
: alanb@sr.hp.com (Alan Bloom) writes:

: >Buckmaster Publishing has every issue of QST back to 1914 on microfiche.

: >They advertise in QST. I forget the price, but it's not cheap.

: \$490. Useless unless you have a fichereader, or are blind.

I bought a used fichereader at the local office supplies company for \$25.  
Even a new one ought to be cheaper than \$490.

AL N1AL

---

Date: 20 Jul 93 00:43:47 GMT  
From: ogicse!uwm.edu!spool.mu.edu!olivea!grapevine.lcs.mit.edu!ai-lab!  
regnad@network.ucsd.edu  
Subject: Teletype question  
To: info-hams@ucsd.edu

Hmmm... The original post said the TTY has an RS-232 connector on it.

---

Date: 20 Jul 1993 01:07:23 GMT  
From: olivea!grapevine.lcs.mit.edu!ai-lab!regnad@ames.arpa  
Subject: teletypes  
To: info-hams@ucsd.edu

In article <22f15fINNbea@topaz.bds.com> ron@topaz.bds.com (Ron Natalie) writes:

>The 37 is an 15 cps upper and lower case machine with hardware tabs and  
>vertical half and reverse stepping. Uses a typebox rather than a drum  
>like on the 33's. Can be fitted with an extra (greek) typebox. Also has  
>a large new line key (no doubt you'll now understand that this was the  
>primary terminal made available to those who wrote UNIX). My 37 has an  
>RS-232 interface. The motor won't start until the modem provides DSR  
>and there's a big green PROCEED light that comes on when you get CD.

Uh oh. (A big green DUFUS light goes off in my head.) This isn't, by any chance, similar to the model 38, is it? Someone gave me one some time ago, supposedly working, but I wasn't able to get the motor to come on. I haven't looked at it in awhile, but it's a large (desk sized) beast, with upper and lower case and built in tape reader/punch. I got a pile of documentation with it, but no motor seemed an obvious problem. Of course I started out at the line cord and worked in. I soon gave up, as other things got priority. Perhaps it's time to exhume this one. :)

Paul Prescott  
N1AAC

regnad@gnu.ai.mit.edu

-----  
Date: Mon, 19 Jul 93 18:48:08 GMT  
From: butch!netcomsv!netcom.com!netcomsv!orchard.la.locus.com!  
prodnet.la.locus.com!lando.la.locus.com!dana@uunet.uu.net  
Subject: TS-50, type-acceptance  
To: info-hams@ucsd.edu

In article <22ei3e\$d50@cville-srv.wam.umd.edu> ham@wam.umd.edu (Scott Richard Rosenfeld) writes:

>I think that the point here is that maybe Kenwood forgot (?) to install  
>a diode in the radio that prevents it from transmitting out of the ham  
>bands "OUT OF THE BOX."

[remainder deleted]

I would be surprised that shops are being busted for selling amateur radios simply capable of out-of-band operation. I suspect that the shops, if they are indeed being busted, are being busted for blatantly selling the radios for non-amateur use.

In other words, I walk into Mike and Tony's Ham Store and ask for an HT to use on the 154.600 Mhz itinerant frequency. If they say, "Here, use this modified amateur Icom, it'll work", then they've intentionally sold you non-type accepted gear where a type accepted radio is required.

--  
\* Dana H. Myers KK6JQ | Views expressed here are \*  
\* (310) 337-5136 | mine and do not necessarily \*  
\* dana@locus.com DoD #466 | reflect those of my employer  
\*  
\* This Extra supports the abolition of the 13 and 20 WPM tests \*

-----  
Date: 19 Jul 93 18:34:28 EST  
From: titan.ksc.nasa.gov!k4dii.ksc.nasa.gov!user@ames.arpa  
Subject: TS50  
To: info-hams@ucsd.edu

In article <930719114400.2ec@MAR65.MAR.ORA.FDA.GOV>,  
ODONNELL@MAR65.MAR.ORA.FDA.GOV wrote:  
> Yes, I do like this feature, but one is tragically missing for me! You  
> can't (or is it that I haven't figured out how to do it yet?), have a  
> button select modes like I want it to. You can select, and then bounce

> between AM-FM, for example, BUT YOU CAN'T THEN GO BACK TO USB-LSB-CW  
> WITHOUT pushing the darn little button on the radio itself!

Paul-

I have buttons 3 and 4 set up to do what you mentioned. Button 3 does the USB-LSB-CW, and button 4 does the AM-FM.

This points out one minor problem I've experienced. Sometimes, while pressing the up-down buttons to change memory channels, one of the programmed buttons will activate instead. I notice that they use the up-down button leads to multiplex the programmed buttons. I wonder if anyone else has experienced this?

With regard to the S-meter calibration, I got into a "discussion" the other day, about how many dB there were in an S-Unit. Since back in the 50's, I had always heard that there was no absolute standard, but most receivers were supposed to be "about 6 dB" per S-Unit. I recall that in the late 50's/early 60's, only one manufacturer had made a claim, and had stated 5 dB per S-Unit.

After the discussion, I went home and dug out an old signal generator, and tried to measure a TS-120S and a TS-690. When funny things happened, I put a ten dB pad between the generator and the receiver under test. The final results were that you just can't trust an S-Meter! I found values ranging from 1.6 dB, up to 13.2 dB per S-Unit. The dB above S-9 measurements were less than the dial indicated, in all cases.

I hope to repeat this test with another, newer signal generator, and also measure the TS-50 for comparison. If anyone else has tried this with good lab equipment, I'd like to hear the results.

73, Fred, K4DII

---

Date: 20 Jul 93 01:08:55 GMT  
From: ogicse!news.tek.com!tekig7!tekig6!royle@network.ucsd.edu  
Subject: TS50  
To: info-hams@ucsd.edu

fred-mckenzie@ksc.nasa.gov (Fred McKenzie):

>With regard to the S-meter calibration, I got into a "discussion" the other >day, about how many dB there were in an S-Unit. Since back in the 50's, I >had always heard that there was no absolute standard, but most receivers >were supposed to be "about 6 dB" per S-Unit. I recall that in the late >50's/early 60's, only one manufacturer had made a claim, and had stated 5

>dB per S-Unit.

>After the discussion, I went home and dug out an old signal generator, and  
>tried to measure a TS-120S and a TS-690. When funny things happened, I put  
>a ten dB pad between the generator and the receiver under test. The final  
>results were that you just can't trust an S-Meter! I found values ranging  
>from 1.6 dB, up to 13.2 dB per S-Unit. The dB above S-9 measurements were  
>less than the dial indicated, in all cases.

>I hope to repeat this test with another, newer signal generator, and also  
>measure the TS-50 for comparison. If anyone else has tried this with good  
>lab equipment, I'd like to hear the results.

>73, Fred, K4DII

Guess it's time to repost this note I originally posted about a year ago:

DERRY@ROSEVC.Rose-Hulman.EDU:

>How may dB correspond to one S unit?

>Is there a uniform well defined standard?

>tnx es 73 de k9cun (Jack Derry)

Contrary to popular belief, there is no standard for S-unit size. Here's why: The S-meter generally simply measures a receiver's AGC voltage. To make an S-meter have a consistent number of dB per S-unit would require an AGC characteristic which is purely logarithmic over a wide range. This isn't otherwise required for proper receiver operation, and requires considerable effort to accomplish, so manufacturers of amateur equipment don't have any incentive to do so. That is, it costs money to implement and doesn't sell rigs, so it isn't done. (I'm told but haven't verified that the old Collins rigs had not only a consistently sized S-unit, but a calibrated signal strength for S9. Neither of these is so for modern rigs.)

I frequently give talks on antennas at local clubs and conventions. As part of the talk, I take a "vote" on how many dB in an S-unit. The results are pretty consistent, with a peak at 6 dB and a smaller peak at 3. After taking the vote, I show the measured S-meter response of my home "appliance", an Icom IC-730, on 40 meters without the preamp. The S-units on this receiver vary from 1.3 to 4.0 dB depending on the place on the scale, and the "10 dB" increments above S9 range from 5.6 to 13.5 dB. I always cringe when a writer sees a 2 S-unit difference between antennas and concludes that the difference is 12 dB or some similar ridiculous amount, when the real difference may be less than 3 dB. What the hell, only

off by 9 dB! (The antenna would have to be about 8 TIMES larger to make up the difference.)

Not only is the S-unit size liable to vary over the scale, but also with band and whether a preamp or attenuator is switched in. Incidentally, the sensitiviy of my Icom scale isn't even monotonic -- it goes up and down as you go up the scale.

Measure your own S-meter. It's simple. A completely adequate step attenuator can be built in an evening with slide switches, 5% resistors, and unetched double-sided PC board. See the ARRL Handbook or Antenna Book for details. The only other thing needed is a strong constant signal. With the attenuator you'll also be able to dazzle your friends by actually being able to MEASURE RELATIVE ANTENNA GAIN! You need two antennas for comparison.

Put the attenuator in series with the better antenna, and arrange a simple slide or toggle switch to switch between the antennas. While listening to a signal, switch between antennas and set the attenuator until they give equal readings on your S-meter. The attenuator setting is the relative gain. In dB, NOT S-units! You'll probably find that the gain varies considerably depending on the direction the signal is coming from, the elevation arrival angle, with the fading cycle when fading is present, and perhaps with seasonal ground conductivity changes.

Please, please don't quote gains in S-units. Gain in "potatoes" would be as meaningful and less misleading.

Roy Lewallen  
W7EL  
royle@tekig6.pen.tek.com

---

Date: Mon, 19 Jul 93 22:56:50 GMT  
From: mercury.hsi.com!a3bee2!cyphyn!randy@uunet.uu.net  
Subject: TS50 Illegal!  
To: info-hams@ucsd.edu

alan@olin.es.com (Alan Brubaker) writes:  
: In article <22e778\$t15@jericho.mc.com> levine@mc.com writes:  
: >The lead article in this week's W5YI Report is the story of several  
: >Ham Radio retailers (like HRO) who were fined \$7000 for selling the TS50  
: >because it can transmit out of the Ham bands right out of the box  
: >and it isn't type accepted for those frequencies. The article also  
: >specifically mentioned the FT530 HT which can also transmit out of  
: >the Ham bands right out of the box (140.000 - 150.000)  
: >  
: >If it is illegal to sell these radios, then is it illegal to use them?  
: >Is it legal to use a radio which is type accepted for a part of the

: > spectrum it covers, but not the entire spectrum it covers?  
:  
:  
:  
:  
: Well, this is interesting. I have owned numerous transmitters and  
: transceivers through the years, and every single one of them had  
: the capability of transmitting outside of the amateur bands. None  
: of these have ever been declared illegal to my knowledge. At the  
: moment, I own a TS930, an IC720A and a TR3, and each of them will  
: transmit outside of the amateur bands. Same deal with our TS440  
: here at our club station at work. Why should a distributor be  
: penalized because a manufacturer designs and builds "improperly"  
: designed equipment. Didn't the FCC approve the equipment for sale  
: here in the U.S. anyway? What is going on here? What's wrong with  
: this picture? Seems kind of fishy that Kenwood would come out with  
: what appears to be one of the greatest advances in HF transceiver  
: technology - an ultra-compact full function HF transciever, handily  
: beating Yaesu, Icom and Ten-Tec to the market, and all of a sudden  
: the TS-50 is "illegal"? Hmmmm...very strange indeed.  
:  
:  
:  
:  
: Alan Brubaker, K6XO |~~|\_ "Pumps have handles, Hams have names;  
: <IYF disclaimer> | \* |mine's Lee, what's yours?" - Lee Wical,  
: Internet: alan@dsd.es.com|\_\_\_\_|KH6BZF, the Bloomin' Zipper Flipper.

I left all the above in for reference....

1st...sence when has the FCC had to 'type accept' a Ham rig?

That 'type acceptance' is for chicken band gear!

I f the acceptance concerns the spectral output of the rig, THEN maybe it would make sense.

But here it's about the freq coverage a rig has....and boy oh boy, a LOT of Hams are in hot water.....how about the home made rigs?

NONE are 'type accepted' and some can very easily tune ANY where!  
And what about the older rigs like Viking Rangers and V32's and KWM-2's ?

HEY!....our liecence also assumes we know enough to not transmit on freqs we are not liecenced for!

That is why they ask those questions about the band edges!

Now...what exactly,was the reason for all those fines then?

Did they sell the rigs to chicken banders?

Are the rigs lousy as far as spectral purity( lots of harmonix)?

BUT...if some new law has occured, wher the FCC now has to type accept ham gear...TELL me which rules these are! ( please?) :)

Randy, KA1UNW

---

Date: Mon, 19 Jul 1993 16:29:21 EST  
From: anomaly.sbs.com!kd1nr!system@uunet.uu.net  
Subject: TS50 Illegal!  
To: info-hams@ucsd.edu

levine@mc.com (Bob Levine) writes:

> The lead article in this week's W5YI Report is the story of several  
> Ham Radio retailers (like HRO) who were fined \$7000 for selling the TS50  
> because it can transmit out of the Ham bands right out of the box  
> and it isn't type accepted for those frequencies. The article also  
> specifically mentioned the FT530 HT which can also transmit out of  
> the Ham bands right out of the box (140.000 - 150.000)

All the Yaesu VHF/UHF radios I've ever seen transmit out of band  
(140-150) so you're telling me my FT-5100 is illegal? I think not.

Tony

---

o o Tony Pelliccio, KD1NR, Control Op 441.750+, ARRL VE  
\\ / system @ garlic.sbs.com Soon W5YI VE  
\\\_/  
\_(oo) Cow humor. Sort of like the Far Side.  
/\_ --- \\  
/ | {MTV}|| MooTV - Rockin' Bumpin' and Funkin' into the 90's  
\* ||{\_\_}||  
||----|| (And people thought my last .sig was long, ha!)  
^^ ^  
-----

---

---

Date: Tue, 20 Jul 1993 03:06:31 GMT  
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!  
usenet.ins.cwru.edu!neoucom.edu!wtm@network.ucsd.edu  
Subject: TS50 Illegal!  
To: info-hams@ucsd.edu

I was wondering about the FCC dinging the three dealers in California too. According to the report, the dealers were fined for selling radios as amateur equipment, capable of transmitting on additional frequencies. The radios did not have appropriate FCC approval. The FCC conducted its investigation in early march of

1993 following a complaint about the TS-50's alleged out-of-band transmit capabilities.

Westlink reported that the dealers represented the units as having additional transmit capabilities and there was literature accompanying the units stating such. Two of the three dealers confirmed the claims to a government investigator, according to Westlink. It was reported that Kenwood's Washington-based lawyer has been called in to help resolve the problem. Current sales of TS-50s are supposedly not affected.

I wonder if the dealers were selling gray market TS-50s? That was about the time the radio first became available. Perhaps, the objection is over the availability of a mod sheet explaining how to expand the radio.

It sure is great having the FCC get bent out of shape over this stuff instead of getting rid of CB bandits on 10 meters.

--

Bill Mayhew           NEOUCOM Computer Services Department  
Rootstown, OH 44272-9995 USA       phone: 216-325-2511  
wtm@uhura.neoucom.edu       amateur radio 146.58: N8WED

-----  
Date: (null)  
From: (null)

I'd really like to find a set of those 300 baud gears for the model 33 that were mentioned. I have several of the things, all at the 110 baud rate I so fondly remember. :) Also, my model 15 does 45.45 baud baudot. I can usually find a QSO using this mode on some band or other to eavesdrop on. Also, ARRL bulletins are still transmitted this way.

Paul Prescott  
N1AAC  
regnad@gnu.ai.mit.edu

-----  
End of Info-Hams Digest V93 #877  
\*\*\*\*\*